



Public Schools of North Carolina
State Board of Education
Department of Public Instruction

Report to the Joint Legislative Oversight Committee

Plant Operation Funding

*Modify Appropriations Act of 2007,
sec. 7.18(a)*

House Bill 2436

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Report # 63

DPI Chronological Schedule, 2008-2009

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Plant Operation Section

With increased budgetary pressures bearing on North Carolina schools, school administrative officials are appreciative when an efficient, cost savings solution is available concerning their school facilities. The Plant Operation Section is pleased to serve as this solution on a daily basis by making our facility consulting, engineering design, and construction liaison skills available to all of the local education agencies (LEAs) in North Carolina. These services are provided in a thoughtful and professional manner with an emphasis on developing school facilities which are safe, cost-effective, and user friendly in an environmentally responsible fashion. This Section ensures efficient operation by providing wide-ranging services addressing energy management design, life safety systems design, clean water and wastewater treatment design, management of hazardous materials, and indoor/outdoor air quality assistance. From ADA access to sophisticated boiler control systems, Plant Operation staff offer the full range of services needed by a school system on a daily basis

This technical assistance is vital to the majority of counties in North Carolina, considering that 70% of the LEAs are low wealth and may be unable to afford outside consulting. These valuable services are available to all local school administrative units free of charge thanks to the funding provided by Section 7.18.(a) of G.S. 115C 546.2 (a). Sample Case Histories are provided on the back of this page.

Engineers' Primary Purpose

Mechanical System Engineer: Retrofit existing building mechanical systems using state of the art design strategies resulting in energy saving and more efficient schools.

Civil/Environmental Systems Engineer: Provide professional technical design and assistance in the realm of civil engineering projects, indoor air quality, hazardous waste disposal, and for the operation of LEAs' water supply, wastewater treatment facilities.

Electrical Systems Engineer: Design state of the art electrical systems, provide security and fire alarm design to promote energy conservation and safety.

Structural Engineer: Provide state of the art engineering design and consulting to LEAs with respect to their physical facilities ranging from the foundation to the roof.

The Plant Operation Section is currently understaffed at a time when the call for more school assistance is increasing. We must replace three personnel in the mechanical, electrical, and civil/environmental disciplines. Additional civil, architectural, electrical, and cad technician personnel are needed as the scope of work evolves and increases.

Sample case histories are provided on the back of this sheet.

Sample Case Histories/Savings

Sampson County Schools

DPI Plant Operation personnel provided the conceptual and design expertise in conjunction with a private engineer for two new schools in Sampson county which required “re-design” due to major cost overruns. In addition to these efforts, DPI's personnel were instrumental in working through the permitting process. The results of the “re-design” and installation efforts resulted in a total cost savings of approximately \$1.34 million.

Hoke County Schools

Plant Operation personnel furnished the design and expertise for the installation of an upgraded wastewater treatment system at Hawkeye Elementary that saved approximately \$20,000 in design and soils evaluation costs and approximately \$100,000 in installation costs. A total savings of approximately \$120,000 was realized.

Halifax County Schools Halifax requested Plant Operation provide technical and administrative assistance to remediate and resolve civil penalty assessments and demands/requirements from the Division of Water Quality (DWQ). We negotiated an agreement to rescind the total Civil Penalty Assessment and a modification to four NPDES Permits which resulted in instantaneous savings of approximately \$20,000 and recurring annual savings of approximately \$20,000 in manpower and travel costs.

Pamlico County Schools

The design of a new heating and air conditioning system at Pamlico Middle School had a total project cost of approximately \$245,000. This project required mechanical, structural, and electrical engineering. Without our services, Pamlico County Schools would have paid approximately 10% (\$24,500) of total project costs for engineering design services.

Orange County Schools

The replacement of boilers at Orange High School and Hillsborough Elementary Schools had total project costs of approximately \$98,000. Had Orange County not utilized our services, the consulting and design costs would have been approximately 10% (\$9,800) of the total construction costs. Additionally, the new boilers are significantly more energy efficient and will reduce future fuel consumption and stack emissions.

Bladen County Schools

Bladen County Schools selected the Plant Operation Section to provide design of fire alarms for eight (8) of its schools. The project (scheduled for bid April 21, 2009) has an estimated cost of \$490,000. Plant Operation provided the engineering service free of charge saving Bladen County Schools approximately \$49,000 in engineering fees.

Person County Schools

This project involved the design of fire alarm systems for five schools in Person County. The project had an approximated construction cost of \$248,000. Plant Operation provided engineering services for these systems free of charge saving Person County schools approximately \$24,800 in associated design fees.

Various LEAs – Training

In addition to providing engineering services, the Plant Operation Section also provides valuable training in a variety of different fields. In just one arena, the asbestos abatement training program, North Carolina school systems saved over \$30,000 in training over the past nine months.